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PROBLEMS IN THE TRANSFORMATIONAL ANALYSIS OF AZERBAIJANI.

BY- FRAENKEL, GERD

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THIS PAPER PROPOSES SOME INSIGHTS INTO THE PROBLEMS FACED BY SOMEONE ABOUT TO EMBARK ON A GENERATIVE GRAMMAR OF AZERBAIJANI. IT IS NOT A SYSTEMATIC ANALYSIS, BUT A SAMPLING OF IDEAS PERTINENT TO SUCH AN ANALYSIS. THE PROBLEMS DEALT WITH ARE (1) GRAMMATICAL DEPTH IN AZERBAIJANI BASED ON VICTOR YNGVE'S DEFINITION OF "DEPTH"--A NUMBER OF SENTENCES OF DIFFERENT LENGTHS ARE ANALYZED AS TO DEPTH AND NUMBER OF TRANSFORMATIONS NEEDED FOR THEIR GENERATION, (2) GRAMMATICALNESS IN AZERBAIJANI, BASED ON HOUSEHOLDER'S DEFINITIONS OF GRAMMATICALNESS AND SAPORTA'S "DEGREES OF UNGRAMMATICALNESS"--AZERBAIJANI USES BOUND MORPHS TO A HIGH DEGREE, AND THESE ARE FIXED IN THEIR ORDER, BUT THESE SO-CALLED WORDS, CONTAINING MANY MORPHS, CAN BE MOVED AROUND IN THE SENTENCE FAIRLY FREELY, WITH A "GRADATION OF CONSISTENCY", (3) THE IDIOM GRAMMAR OF AZERBAIJANI--THE IDIOM IS DEFINED, AFTER HOCKETT, AS "SOMETHING NOT REGULARLY GENERABLE FROM SOME PRODUCTIVE FORMULA OF THE GRAMMAR...." THEY MUST BE LISTED AND GLOSSED IN THE LEXICON AND ARE CONTAINED UNANALYZABLE IN THE LAST LINE OF THE SENTENCE GRAMMAR, THEREFORE BELONGING TO THE MORPHOLOGICAL GRAMMAR. THE ANALYSIS INCLUDES A TWELVE-PAGE HANDOUT. (KL)

Kentucky Foreign Language Conference

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Gerd Fraenkel,

Indiana University

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Problems in the Transformational Analysis of Azerbaijani

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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At the same time this paper is not meant to be a generative grammar of Azerbaijani but rather to give some insight into the problems faced by anybody about to embark on this project.

Many of the following thoughts were provoked while I sat listening to discussions going on in the linguistic seminar at Indiana University and while I was contemplating their applicability to the analysis of Azerbaijani in which I am engaged. This is the reason why this paper will not be a systematic analysis of a language but a sampling of ideas pertinent to such an analysis, each one being interesting in itself. As it is, I do not recoil from presenting material from unsteady ground in which 'seems', 'maybes' and 'perhapses' abound. I feel that this is stimulating and as much worthy of presentation as machine-tested iron-clad results. To what extent all these particulars will later fall into a pattern is often still a debatable point. But the very fact that they are problems rather than neatly solved points which I could present to an admiring but unaware-of-things-Azerbaijani audience seems to me a virtue rather than a deficiency.

The points, then, which I want to touch upon today are three closely interrelated questions which, besides shedding some light on Azerbaijani may also serve to show what kind of problems the scholar faces who wants to attack transformationally a language which has never before been fully explored (though, I must add in fairness, in my case its close genetic relationship with the well known Turkey Turkish is of great help).

The problems are in this order:

1. Grammatical Depth in Azerbaijani,
2. Grammaticalness in Azerbaijani,
3. The idiom grammar of Azerbaijani,

[illegible]

[illegible] YNGVE, of M. I. T. in his paper 'A Model and a Hypothesis for Language Structure' read at the 1959 [illegible] meeting in Chicago made the following statement: 'One of the outstanding characteristics of language is its wealth of complexity particularly on the level of sentence structure.' He then goes on to explain how he wants to analyze these complex structures in order to show that a framework can be devised for a description of many of the significant features of a language. For this purpose he uses an immediate constituent organization although 'inasmuch as this is a descriptive framework, it is static....it is not a mechanism or model for sentence production.' He then explicates the technical setup of a machine to be used to store and reproduce these sentences and in this connection makes the following statement which is of particular pertinence to this paper: 'We will now turn our attention to the temporary storage. If a set of sentences that the grammar generates is infinite there is a possibility that an infinite amount of temporary storage may be required. But a device with an infinite amount of temporary storage is not physically realizable, and we suspect that the human memory too, does not have an infinite amount of storage capacity. We are thus led to the final simplification of our assumptions: we assume that the temporary memory in our mechanism can store only a finite number of symbols.' The steps to be memorized as long as one linguistic action is carried out in order ultimately to arrive at a grammatically acceptable utterance are measured in terms of "depth" by YNGVE. He then proceeds in his paper to show how English, which serves as his sample, applies various kinds of devices in order to turn regressive sequences which require* a depth of zero or one, as all further steps lie ahead and are not directly governed by the previous one.

Although this may not be an ideal explication of YNGVE's ideas on the [illegible] let things rest at that and proceed to show what influence there

*) a great depth into progressive sequences which require

[illegible]

[illegible] analysis [illegible] [illegible] [illegible] which is [illegible] [illegible] some kind of typ[illegible] in various languages is possible.

Much of what will be said in this and other parts of the paper can only be considered preliminary and may even still be in the stage called anecdotal. Yet, my personal conviction is that results will not change substantially even when a more representative sample of the language is subjected to a thorough analysis along these lines. This conviction of mine is based on the often [illegible] intuition and a more or less thorough knowledge of the remaining parts of my corpus not yet scrutinized from this particular aspect.

A number of sentences of different lengths was taken and analyzed both as to depth and number of transformations needed for their generation. As the phrase structure of these sentences has no bearing on our problem I do not bother you with it but present to you only the two types of analyses.

The accompanying table shows three sample sentences, two of which were given [illegible] with the purpose of seeing whether the structural change introduced would result in the desired effect of 'postponing' the branches and thus reducing the depth.

[illegible] The sentences themselves, their interlinear translation and their [illegible] English are to be found under number 1-3 on your handout. [illegible] on your handout. The transformations involved in all sentences are to be found under no. III on your handout.

[illegible] of sentence 5, [illegible] [illegible] the depth.

[illegible] which I have come to in connection with the [illegible], and I believe that this by no means diminishes their [illegible].

[illegible]

1.1, 1. *The number of words in a sentence has in principle to do with the depth of the sentence.* The more words we have, the more phrases occur which form VP, the more we can anticipate a greater depth; in nos. 5a, 5b the number of words remained constant although a device was introduced to postpone the depth-arrangement until it became progressive and thus reduced the no. of depth by one.

1.1, 2. *The number of transformations needed for the generation of sentences is not correlated with the depth*, on the other hand with increasing number of words additional transformations can be expected. The reasons for this seems to be the following fact: the number of transformations depends on the 'seams' in the sentence, i.e. on the spots were pure expansion of a formula would not result in the new form. This is of course, commonplace as this fact forms the very basis of transformational analysis. It ought to be stressed however, as a structural change for the diminution of depth leaves the seams of the sentences intact and only changes their character. It may [illegible] safely be assumed that a increasing depth number is paralleled by an increasing number of generalised transformations versus simple ones. Furthermore I believe it justified to say that along with an increase in depth goes an increase in recurrent transformations, i.e. a repetition of transformations encountered in the sentence with less depth, rather than an introduction of additional transformations. This conclusion is of course, not influenced by the fact, that the structural change applied in a sentence for

[illegible]

[illegible]

[illegible]

[illegible] the [illegible] would [illegible] all the [illegible] could perhaps be correlated [illegible] typology, possible results of which [illegible] particular [illegible] other--although, I say, this [illegible] might be [illegible], it is hard to believe that we could arrive at absolutely [illegible] corpora. What we need are almost identical constructions [illegible] identical circumstances, or absolutely overlapping texts. [illegible] synchronic or diachronic stylistics there are almost [illegible] obstacles. And so the best that can be said about the application of [illegible] and transformation criteria for typological purposes, criteria which would establish a syntactical typology along[illegible] and morphological ones proposed earlier, is that [illegible] theoretically feasible, their practical application is [illegible] in the nature of [illegible] and may never permit us to [illegible] absolutely objective and countable data.

[illegible]

[illegible] variants [illegible] by [illegible] in this presentation. These aspects may be [illegible], morphological, syntactic and other [illegible] types [illegible] in a [illegible]

[illegible] arbitrarily select some point on this line as the [illegible] boundary, [illegible] in such a way that successive [illegible] push the [illegible] further and further along the line. [illegible] is [illegible] also possible [illegible] this whole sort of grammaticalness (or [illegible] a different [illegible] be more appropriate)', and I say that perhaps grammaticality [illegible] the indistinguishable term, 'there is an absolute yes-or-no type, [illegible] in the first instance, should permeate all utteranc[illegible] a flat 'no' on this quality.' So far Householder.

[illegible] the other hand, [illegible] in a recent exposition at the Indiana University linguistic seminar has tried to establish that we may [illegible] types of ungrammaticalness. Though he denies the difference between these and the degrees of grammaticalness, it seems that the [illegible] concepts are a dichotomy or both sides of the [illegible] of the same axis.

In [illegible], these questions were taken up by me and checked with an informant. Unfortunately [illegible] informants are hard to come by [illegible] had to have the [illegible] for my research without the need for [illegible] and extensive travel. What follows here is, accordingly, [illegible] language only, it being understood that the [illegible] not applicable to [illegible] dialects. No literature could [illegible] found and no claim is being made for non-occurrence in [illegible] or

[illegible]

[illegible] sentence [illegible] will especially [illegible] (II [illegible]) and [illegible] rejected utterances (the [illegible] from [illegible]). I have [illegible] analysed [illegible] cases there [illegible] probably [illegible] I may very well [illegible] this. [illegible], following Chomsky, all the [illegible] of frequency of occurrence [illegible] as a criterion for grammaticalness.

rumsin jalli ugidana gomili jataliar Colourless green ideas sleep furiously. [illegible] was easy enough to [illegible] through the look of bewilderment in my informant's eyes was not much different from the one encountered under similar circumstances in those of informants of other languages. It is [illegible] a phenomenon that everything translatable is grammatical, although it may be nonsensical. For English he tries to establish a scale of [illegible] in this respect: 'Colourless green ideas sleep furiously' to 'he don't does it' to ' him with I father and writes' [illegible].

In [illegible] it will be difficult to establish these differences although certain distinctions can, of course, be made. When in English [illegible] together the unaccustomed order of free morphs like 'with' and 'him' in the sentence 'him with I', etc. may in some sense be grammatical there is no question about the fact that in [illegible] [illegible] all cases, relations, possession, tenses, persons etc. are expressed [illegible] morphs (suffixes or enclitics) any formation containing a [illegible] quoted [illegible] table [illegible] word should be the [illegible] and the words should [illegible] the intensity of the utterance. So, we are able to [illegible] the number of each group [illegible] of [illegible] in the [illegible] of [illegible], [illegible], the [illegible] of [illegible] of this and that. The former will [illegible] the latter is almost free.

[illegible] examples:

o geldi bugun bura We came here today

This my informant acknowledged as grammatical with a special emphasis and [illegible] given on the handout under number Va and the order of [illegible] voluntarily given when it came to correcting it, he did come [illegible] under Vb.

From the point of view of grammaticalness, then, at least these 15 and [illegible] all [illegible] possibilities have to be acknowledged as occurring, and each one of them will have to be footnoted to the effect that their occurrence is rare and connected with emphasis where emphatic stress may or may not be present. May I recall the fact here that explicitly frequency of occurrence was not made a criterion for grammaticalness.

2.3 Another point which my informant impressed upon me as only stylistically [illegible] is the number of modifiers (adjectives) considered [illegible]. The maximum number of such modifiers applied by my informant was invariably three and a larger number was rejected as [illegible]. It is obvious that this number can hardly be used for [illegible] typology as, just as in the case described above, we are [illegible] further test for the distinction of individual idio-[illegible] and limits imposed by the [illegible].

[illegible] there are the cases of [illegible] that I think the [illegible] vs. the ungrammatical: the case of word order within the [illegible] phrase [illegible]. This order is unalterable and can syntactically be altered only when the speaker returns to a construction introduced from Persian. But as this question leads us into the field of grammaticalness under erroneous circumstances of bilingualism I will not include it here today though I believe that the study of conflicting systems of grammaticalness would be a fascinating one just as other studies on bilingualism, are. 4)

We would, of course, reach far afield here into the area of cultural interference. Programmatically I should like to say that it would be worth a test whether the following three categories can be found in the speech community and whether they can rigorously be kept apart: the monolingual with no knowledge of foreignisms, the monolingual educated enough to have these foreignisms unknowingly in his speech, the bilingual who is aware of his switching the code whenever he incorporates foreignisms (in this case Persian idioms) for purposes of greater clarification.

This, though, would be less a matter of grammaticalness--as all sections of the population would probably accept the phrases when they heard them--than of substitutability of a linguistic [illegible] for a [illegible] the same. The greater the awareness of foreignisms the greater the [illegible] to admit that they can be replaced by native elements though these may be considered less effective. This study could, of course, not be built on informant reaction only because the informant could or rather must, be the source for information gathered but would have to leave the evaluation entirely to the linguist. As one informant is of necessity not enough for a study of this nature its value can only be pointed out here while its execution will have to await greater informant availability.

2.4. Phonological grammaticalness could also be measured only briefly as a byproduct of other work being conducted in Azerbaijani and can therefore not be conclusive proof (mainly for or against Saporta) but only an indicator of possible reactions.

A number of items were submitted to the informant who was told that part of the material was taken from a dialect unknown to her and part was artificial material made up by me. Which was which? The reaction was in conformity with what I would have predicted. Items containing permissible interphonemic specifications, i.e. mainly consonant clusters, were accepted as genuine; those containing others were either rejected as unlikely (not as impossible) or were broken up according to standard Azebaijani procedure for similar cases of foreign word absorption.

Could a method be worked out to show that the more Distinctive Features the phonemic system of a language has the less likely is an informant to reject items as non-native? Or are the interphonemic specifications rather the decisive factor for this analysis, i.e. the question which phonemes occur initially, medially, or finally and in which order? In items of small number and high frquency of occurrence, like suffixes, nothing unknown was accepted; in items of high number and low frequency of occurrence, such as lexical items, doubts were expressed. Is this clear cut decision independent of the other two criteria? All this is put forth again tentatively for examination.

2.5. Finally, there is hardly any doubt that Azerbaijani would not behave much differently from other languages in these respects. It has been taken up here just as one example and because its being a language spoken but not often written in a bilingual text enhances its interest for the questions we are concerned with.

3. The idiom

3.0 No one has yet attempted to write a complete grammar along the lines suggested in Householder's paper mentioned above. I consider it a privilege to be the first to make such an attempt and to present my preliminary results to you for consideration. I can certainly make no claim to completeness here but I hope to be able to show that the line followed makes the analysis of the problems embedded in the nature of the Azerbaijani language easier, more efficient, and more exhaustive. I may well be accused of presenting more of discovery procedures here than of final results. I believe, however, that in view of this new approach this is permissible. Even Chomsky has not been able to keep away from certain explanations in his Syntactic Structures and I certainly make no claim to Chomskian ingenuity in method of presentation.

3.1. Hockett in his book 'A Course in Modern Linguistics' introduces the idiom as a newly defined term and Householder in his review of Hockett's book in LANGUAGE, 35:509 and subsequently in his paper on Linguistic Primes uses it to good advantage. The idiom is then defined as something 'not regularly generable from some productive formula of the grammar. These idioms are the items which must be listed and glossed in the lexicon accompanying the grammar.' Further 'any process by which new sentences are freely formed from other sentences..... belongs in the sentence grammar...... Processes which produce idioms.....and from whose operation we cannot predict the acceptability or survival of the new product, belong to.....the idiom grammar'. Examples of idioms in English taken from Chomsky's book on Syntactic Structures would include items like 'have on', 'and so', 'they', 'will', etc. Very often the idiom will be identical with the word by coincidence.

3.2. For Azerbaijani this new concept and the possibility to set aside a part of the generative grammar of the language solely for the purpose of producing idioms has helped me to overcome a number of problems, two of which I want to show here to exemplify my approach.

3.2.1. The combination of N(oun) - almost exclusively of foreign origin as formalized in the phonological part of the grammar - plus auxiliary, i.e. etmäk or e(j)lemäk in most cases as the others, namely qylmax and bujurmax, are almost unknown in the spoken language of today, have been a constant source of trouble in the generation of Azerbaijani utterances. Not nearly all of them can be found in any one informant's speech at any one time even during lengthy sessions on widely divergent subjects. It is thus imperative to arrive at a generalization and to devise a formula which will generate all similar combinations which at any time may be considered grammatical by the informant, though - and here we recall the definition of the idiom - their chance of survival is unpredictable. The items arrived at in this way will be contained unanalyzed in the last line of the sentence grammar and their generation in turn will be part of the morphological grammar. A list will itemize those actually found in the close corpus which is the informant's speech up to the time when the grammar is being written.

Exactly the same goes for the so called traditional idiomatic expressions, as distinguished from the idiom as a linguistic prime. Many V(erb)s in Azerbaijani can combine with a large number of N(oun)s to form such expressions. Just as in English 'to go for a walk' may be supplemented by 'to go for a flight' so in Azerbaijani new expressions can be formed and probably discarded at will overnight. Some examples are: baš vurmax *to drop in* (lit. to strike the head), äl čäkmäx *to keep away from* (lit. to withdraw (one's) hand). Again my assumption in this case is that *all* occurrences of *all* N(oun)s with *all* V(erb)s would eventually be [illegible] which and that allowance has to be made for their generation as a unit.

Certain items will have to appear in both parts of the grammar. There is, of course, nothing wrong with this, as it happens to be the case with other constructions too which are treated from different aspects in different parts of the grammar, these being independent of each other. One example of that will have to suffice here.

The expression xabar vernā to inform (lit. to give news) occurs and is treated as an idiom in the same way all the other above mentioned idioms are. But a way for breaking this idiom up and using its parts in the same fashion any N(cun) and its adjoining transitive verb are used, is permissible. The main structural feature will be the insertion of a case suffix between N(cun)stem and verb. The meaning will remain the same.

These two utterances will then have the following generation (nos.1 and 2 will also be on the handout under no. VI):

1. o [illegible] xabar verdi   he informed me

1. S → NP + VP
2. VP → NP ^ ju + V
3. NP → [illegible] o
4. V → V_{id} ^ T
5. N_i → [illegible]
6. V_{id} → xabar ver
7. T → di
8. [illegible]un ^ ju → [illegible]

[illegible] verdiche [illegible]

(Info. gave me the same).

1. S ——→ NP + NP + NP ^ di

2. VP ——→ NP ^ [illegible] + NP ^ nU + V_2

3. T_{op} NP ^ ni + V_2 + NP ^ di ——→ NP ^ di + NP ^ ni + V_2

4. NP ——→ [illegible] ⟨N_1 ^ nUn ^ sU⟩ + N_2

5. T_{ob} N ^ nUn ^ sU ——→ N ^ nUn + N ^ sU

6. V_2 ——→ Vs_2 ^ T

7. Vs_2 ——→ ver, gefur, do, etc.

8. $N_{1,2}$ ——→ mabur, õlim, baure

9. T ——→ di

10.
 a) [illegible] ^ jl ——→ [illegible]
 b) mabur ^ sU ——→ mabural
 c) baure ^ sU ——→ baureal
 d) baureal ^ di ——→ baurealinde

Accordingly, generation no. 1 stops on the syntactic level before the verb idiom is analyzed because the latter is treated as a unit. In generation no. 2 there is no explicit verb idiom and correspondingly the lowest unit of our analysis is the verb which, of course, just as well may eventually belong to the idiom category. In quite a few respects eventual overlap between morpheme and idiom on the one hand and between word and idiom on the other will have to be accounted for, perhaps by dispensing with all the terms on this level except the idiom. More theoretical thinking will have to go into a radical change like that.

3.2.2. For lack of time I shall only be able to mention the other problem briefly. I am referring to the indefinite number of dvandva-compounds either occurring in Azerbaijani or being of grammatically acceptable possible occurrence in the same way that idiomatic expressions are. In my idiom grammar all combinations of two inanimate nouns or of two animate nouns into dvandva-compounds are being taken care of. In my sentence grammar they will be treated as a unit and there will be no need to list any in this latter part of the generative grammar. Footnotes in the morphological grammar will indicate which are the more frequent types. This will be purely for the reader's information and, as in previous parts, does not reflect the grammaticalness or easier generability of the utterances dealt with.

4. Conclusion. Concepts old and new were discussed in this paper today and the examples on the handout were meant to give an indication of the way I approached them and their applicability to Azerbaijani. It is hoped that the problems raised and the thoughts mentioned in connection with them will be of help to both the general linguist and the scholar particularly interested in the Altaic

Language Analysis.

An overall appreciation of problems confronting the scholar working on the transformational analysis of any language in the Ural-Altaic group has unfortunately to be left untouched here for lack of time though its inclusion had originally been intended. May it be said only that I see in the elaboration of such trans-dialectal (if I may call it so) transformational problems a challenge not falling short of similar questions tackled by the phonemicists and other linguistic scholars.

[illegible]

[illegible] further investigation I found [illegible] may be an unfortunate example for [illegible] I wanted to [illegible] those continuous [illegible] of [illegible] in bilingual areas. [illegible] could certainly be cited. The feature in question has been [illegible] language [illegible] even if it [illegible] historically adopted [illegible] question I have not been able to [illegible] in the [illegible] it is certainly felt by no speaker as such, not even the most competent bi-lingual. Nevertheless, the ideas propounded stand, only the examples will have to be found elsewhere.

[illegible] 10

[illegible] who is very interested in this particular problem, has mentioned it in his paper 'Towards a Phonemic Typology of the Slavic Languages' presented at the 4th International Congress of Slavicists, Moscow, September 1958. In footnote 10 on page 4 of the English published edition of this paper he says, 'The rules of combination, which may vary among languages with identical features' (which is as much as to say that some languages may have slots filled with phonemically distinct features whereas other languages may have the same slot filled with allophonically redundant features) 'can be compared to the rules of distribution which vary among systems with identical or very similar phonemic inventories'. We may perhaps soon expect some more work from him on the theoretical side of the question brought up by me.

Kentucky Modern Language Conference
Saturday, April 30, 1960

Gerd Fraenkel
Indiana University

Problems in the Transformational Analysis of Azerbaijani

I

1. gejǯe ova getmajin xejri joxdu.

night to-the-hunt of-its-going its-good is-not-existent.

It is no good to go hunting at night.

2. (biz) mamatdan sizin bacija galmejizi eŠitdix.

we from-Mamet your to-Baku your-going we-have-heard.

We have heard from Mamet that you are going to Baku.

3a. amma bilmae laazimdi gečan muhaaribe zamani min

but to-know it-is-necessary-that past war time 1000

dokquz jüz qirx birin avgust ajinda elmdi qizil

9 100 40 one-of August in-the-month when red

ordunun esgarlari oraja vaarid oldu azarbaijǰan xalqinin

army-of soldiers there arrived Azerbaijan of-the-people

bazilari azarbaijǰanǰa qazita va majalla našr

some in-Azerbaijani newspapers and magazines publication

etmaje bašladilar.

to-make began.

3b. amma gečan muhaaribe zaman min dokquz jüz qirx

1. gečǝ ova getmǝjin xejri joxdu.

night to-the-hunt of-its-going its-good is-not-existent.

It is no good to go hunting at night.

2. (biz) mamǝtdǝn sizin bacǝja gǝlmejizi ešitdix.

we from-Mamet your to-Baku your-going we-have-heard.

We have heard from Mamet that you are going to Baku.

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9 100 40 one-of August in-the-month when red

ordunun asgǝrlǝri oraja vǝrid oldu azǝrbaijǰan xalqinin

army-of soldiers there arrived Azerbaijan of-the-people

bǝzilǝri azǝrbaijǰanǰa qǝzitǝ vǝ mǝǰǝllǝ nǝšr

some in-Azerbaijani news-papers and magazines publication

etmǝjǝ bašladilar.

to-make began.

3b. amma gečǝn muhaaribǝ zamanǝ min dokquz jüz qirx

but past war time 1000 9 100 40

birin avqust ajinda qizil ordunun asgǝrlǝri oraja

one-of August in-month red army-of soldiers there

vaarid	olan	zaman	azærbajǰan	xalqının	bæzilærinin
arriving	being	time	Azerbaijan	of-the-people	of-some

azærbajǰanǰa	qæzitæ	væ	mæǰællæ	næšr	etmæjæ
in-Azerbaijani	news-papers	and	magazines	publi-cation	to-make

bašlamaxların	bilmæ	laazımdı.
their-beginning-it	to-know	is-necessary.

But one has to know that during the last war, in August of 1941, when the soldiers of the Red Army entered, some of the people of Azerbaijan began the publication of newspapers and magazines in Azerbaijani.

Note: The second version of sentence no. 2, which consists of the same utterance without the introductory biz, has not been given but has only been indicated by the parentheses.

II

Operations involved in the transformational analysis of the sample sentences. Phrase structure has been left out here as being irrelevant for our problem.

Sentence 1:

1. T_{ob} $\quad N_{id}\hat{}in\hat{}i + N \Longrightarrow N_{id}\hat{}in + N\hat{}i$

$\text{ova getmAX}\hat{}in\hat{}i + \text{xejr} \Longrightarrow \text{ova getmAX}\hat{}in + \text{xejr}\hat{}i$

2. T_{op} $\quad \text{var}\hat{}T \Longrightarrow \text{yox}\hat{}T$

in-Azerbaijani news-papers and magazines publi-cation to-make

baslamaxlarin bilmac laazimdi.

their-beginning-it to-know is-necessary.

But one has to know that during the last war, in August of 1941, when the soldiers of the Red Army entered, some of the people of Azerbaijan began the publication of newspapers and magazines in Azerbaijani.

Note: The second version of sentence no. 2, which consists of the same utterance without the introductory biz, has not been given but has only been indicated by the parentheses.

III

Operations involved in the transformational analysis of the sample sentences. Phrase structure has been left out here as being irrelevant for our problem.

Sentence 1:

1. T_{ob} $N_{id} \frown in \frown i + N \Longrightarrow N_{id} \frown in + N \frown i$

   ova getmäK $\frown$ in $\frown$ i + xejr $\Longrightarrow$ ova getmäK $\frown$ in + xejr $\frown$ i

2. T_{op} (simple) var $\frown$ T $\Longrightarrow$ yox $\frown$ T

   var $\frown$ di $\Longrightarrow$ yox $\frown$ du

3. T_{op} (generalized) ova getdi

   xejir vardi $\Longrightarrow$ ova getmejin xejri vardi

Sentences 2a and 2b:

1. T_{ob} biz ^ X ...... V ^ dU ====> biz ...... V ^ dU ^ X

biz ^ X ešit ^ dU ====> biz ešitdUX

2. T_{ob} siz ^ in ^ iz + N_{id} ====> siz ^ in + N_{id} ^ iz

sizin ^ iz bakiya gælmAX ====> sizin bakiya gælmAX ^ Iz

3. T_{op} (generalized)

siz bakiya gældiz
biz bunu mametdæn ešitdUX ====> sizin bakiya gælmAYIz mametdæn ešitdUX

Sentence 3a.

T_{ob} N ^ (n)Un ^ (s)U + N ====> N ^ (n)Un + N ^ (s)U

(this transformation recurs 6 times in this utterance. The ^ (n)Un element is three times zero. To simplify matters I consider these two types as one here.)

1. muhaaribæ ^ ı zaman ====> muhaaribæ zamanı
2. avqust ^ ı ay ====> avqust ayı
3. bir ^ in ^ ı ay ====> birin ayı
4. ordu ^ nun ^ i asgærlær ====> ordunun asgærlæri
5. azærbayjan ^ ı xalq ====> azærbayǰan xalqı
6. xalqı ^ nin ^ i bææzilær ====> xalqının bææzilæri

7. T_{op} (simple)

qizıl ordunun asgærlæri vaarid oldu ====>
elu-ci qizıl ordunun asgærlæri vaarid oldu

8. T_{op} (generalized)

bunu bildilær
laazim-dı ====> bunu bilmAX laazim-dı

9. T_{op} (generalized)

bunu bilmAX laazim-dı ====>
gæčæn muhaaribæ zamanı ...... (to end of sentence)

ob   sis ^ in ^ iz + N_{id} =====> sis ^ in + N_{id} ^ iz

sisin ^ iz bakiya gəlmAX =====> sisin bakiya gəlmAX ^ iz

3. T_{op} siz bakiya gəldiz
(generalized)   biz bunu mamətdən eśitdUK   =====> sisin bakiya gəlmAYIz mamətdən eśitdUK

Sentence 3a.

T_{ob} N ^ (n)Un ^ (s)U + N =====> N ^ (n)Un + N ^ (s)U

(this transformation recurs 6 times in this utterance. The ^ (n)Un element is three times _zero_. To simplify matters I consider these two types as one here.)

1. muhaaribə ^ ı zaman =====> muhaaribə zamanı
2. avqust ^ ı ay =====> avqust ayı
3. bir ^ in ^ ı ay =====> birin ayı
4. ordu ^ nun ^ i asgərlər =====> ordunun asgərləri
5. azərbayjan ^ ı xalq =====> azərbayjan xalqı
6. xalqı ^ nın ^ ı bəəzilər =====> xalqının bəəziləri

7. T_{op} qizil ordunun asgərləri vaarid oldu =====>
(simple)   elə-ki qizil ordunun asgərləri vaarid oldu

8. T_{op} bunu bildilər
(generalized)   laazim-di   =====> bunu bilmAX laazim-di

9. T_{op} bunu bilmAX laazim-di
(generalized)   geçən muhaaribə zamanı ...... (to end of sentence) =====>

bilmAX laazim-di-ki geçən muhaaribə zamanı ...... (to end of sentence)

10. T_{op} næšr etdilær
(generalized) bunu bašladɨlar =====> næšr etmAYA bašladɨlar

Sentence 3b.

T_{ob} (Here this transformation recurs 6 times.)

1. muhaaribæ ^ ɨ zaman =====> muhaaribæ zamanɨ
2. avqust ^ ɨ ay =====> avqust ayɨ
3. bir ^ in ^ ɨ ay =====> birin ayɨ
4. ordu ^ nun ^ i æsgærlær =====> ordunun æsgærlæri
5. azærbayjan ^ ɨ xalq =====> azærbayjan xalqɨ
6. xalqɨ ^ nɨn ^ i bæzilær =====> xalqɨnɨn bæzilærinin
(the affixation of the three underlined phonemes is not here shown.)

7. T_{op} bu mühim bir zaman oldu
(generalized) qizɨl ordunun æsgærlæri vaarid oldu =====>
qizɨl ordunun æsgærlæri vaarid olan zaman

8. T_{op} bunu bildilær
(generalized) bu laazɨm-dɨ =====> bunu bilmAX laazɨm-dɨ

9. T_{op} næšr etdilær
(generalized) azærbayjan xalqɨnɨn bæzilæri bunu bašladɨlar =====>
azærbayjan xalqɨnɨn bæzilæri næšr etmAYA bašladɨlar

10. T_{op} bunu bilmAX laazɨm-dɨ
(generalized) azærbayjan xalqɨnɨn bæzilæri næšr etmAYA bašladɨlar =====>
azærbayjan xalqɨnɨn bæzilærinin ^ larɨ næšr etmAYA bašlamax ^ ɨn bilmAX laazɨm-dɨ

11. T_{ob} pos + N ^ X =====> N ^ pos ^ X

T_{ob} (Here this transformation recurs 6 times.)

1. muharibæ ^ ɨ zaman ⟹ muharibæ zamanɨ
2. avqust ^ ɨ ay ⟹ avqust ayɨ
3. bir ^ in ^ ɨ ay ⟹ birin ayɨ
4. ordu ^ nun ^ i æsgærlær ⟹ ordunun æsgærlæri
5. azærbayǰan ^ ɨ xalq ⟹ azærbayǰan xalqɨ
6. xalqɨ ^ nin ^ i bæzilær ⟹ xalqɨnɨn bæzilærinin

   (the affixation of the three underlined phonemes is not here shown.)

7. T_{op} bu mühim bir zaman oldu

   (generalized) qɨzɨl ordunun æsgærlæri vaarid oldu ⟹

   qɨzɨl ordunun æsgærlæri vaarid olan zaman

8. T_{op} bunu bildilær

   (generalized) bu laazɨm-dɨ ⟹ bunu bilmæK laazɨm-dɨ

9. T_{op} našr etdilær

   (generalized) azærbayǰan xalqɨnɨn bæzilæri bunu bašladɨlar ⟹

   azærbayǰan xalqɨnɨn bæzilæri našr etmæKæ bašladɨlar

10. T_{op} bunu bilmæK laazɨm-dɨ

    (generalized) azærbayǰan xalqɨnɨn bæzilæri našr etmæKæ bašladɨlar ⟹

    azærbayǰan xalqɨnɨn bæzilærinin ^ larɨ našr etmæKæ bašlamaɨ ^ n bilmæK laazɨm-dɨ

11. T_{ob} pos + N ^ X ⟹ N ^ pos ^ X

    ...... bæzilærin ^ in ^ larɨ ...... bašlamaɨ ^ n ⟹

    ...... bæzilærinin ...... bašlamalarɨn

Notes:

Morphophonemic transformations have not been taken into account.

III

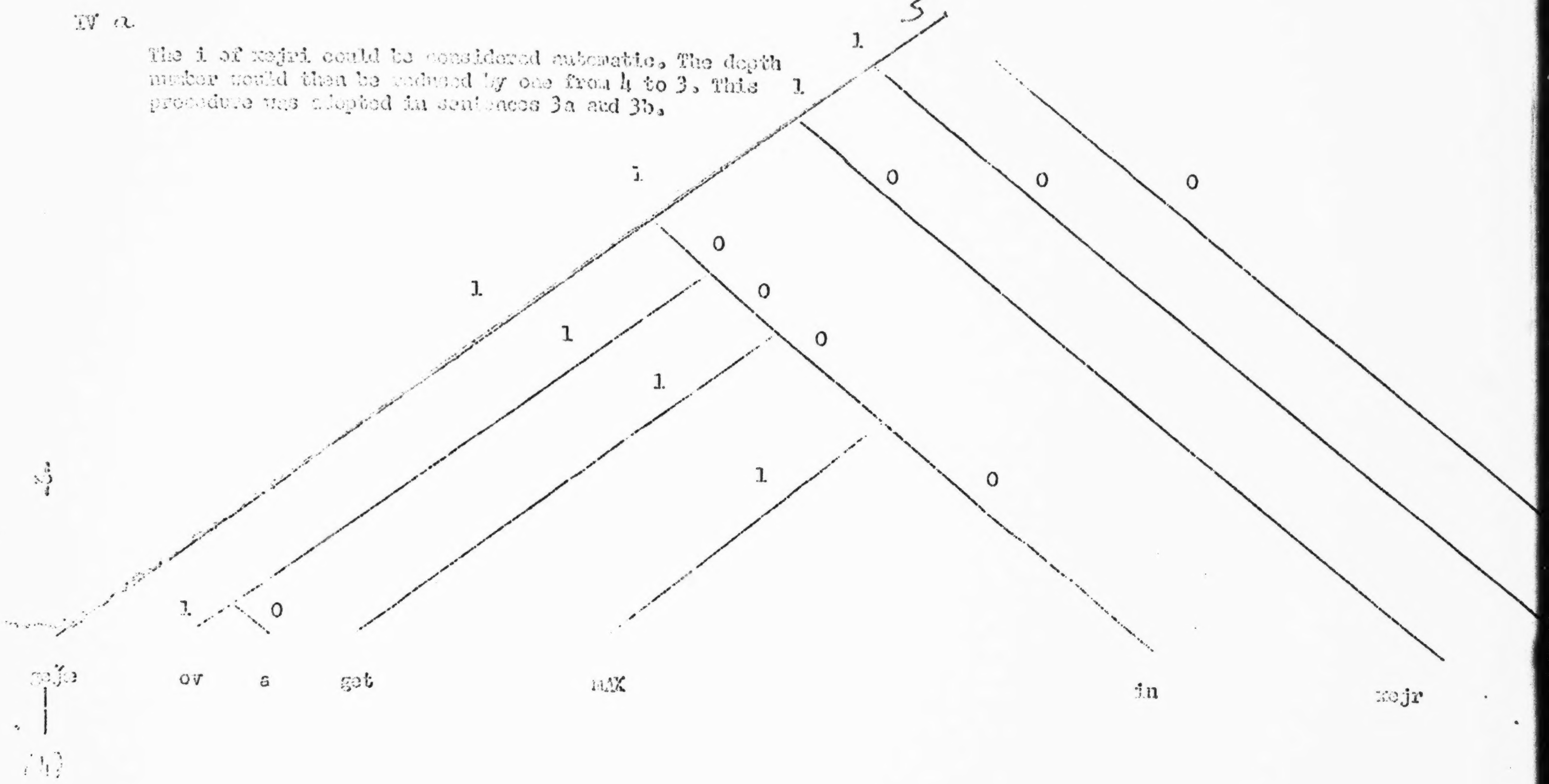
Summary of Depth and Transformations

	1	2a	2b	3a	3b
number of words	5	6	5	30	30
depth number	4	3	3	5	8
number of transformations:					
obligatory	1	2	2	6	7
recurrent				6	6
optional	2	1	1	4	4
simple	1			1	
generalized	1	1	1	3	4
total transformations	3	3	3	10	11

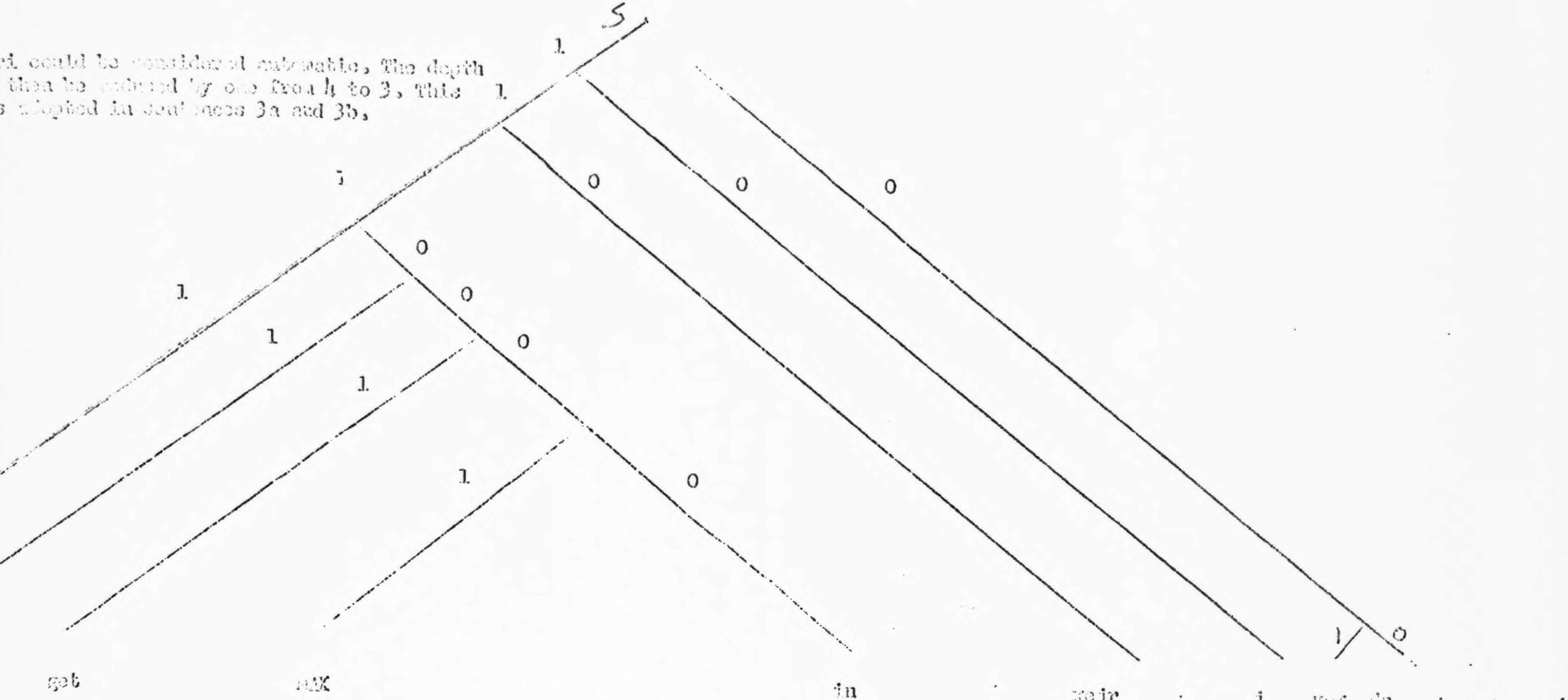
* * *

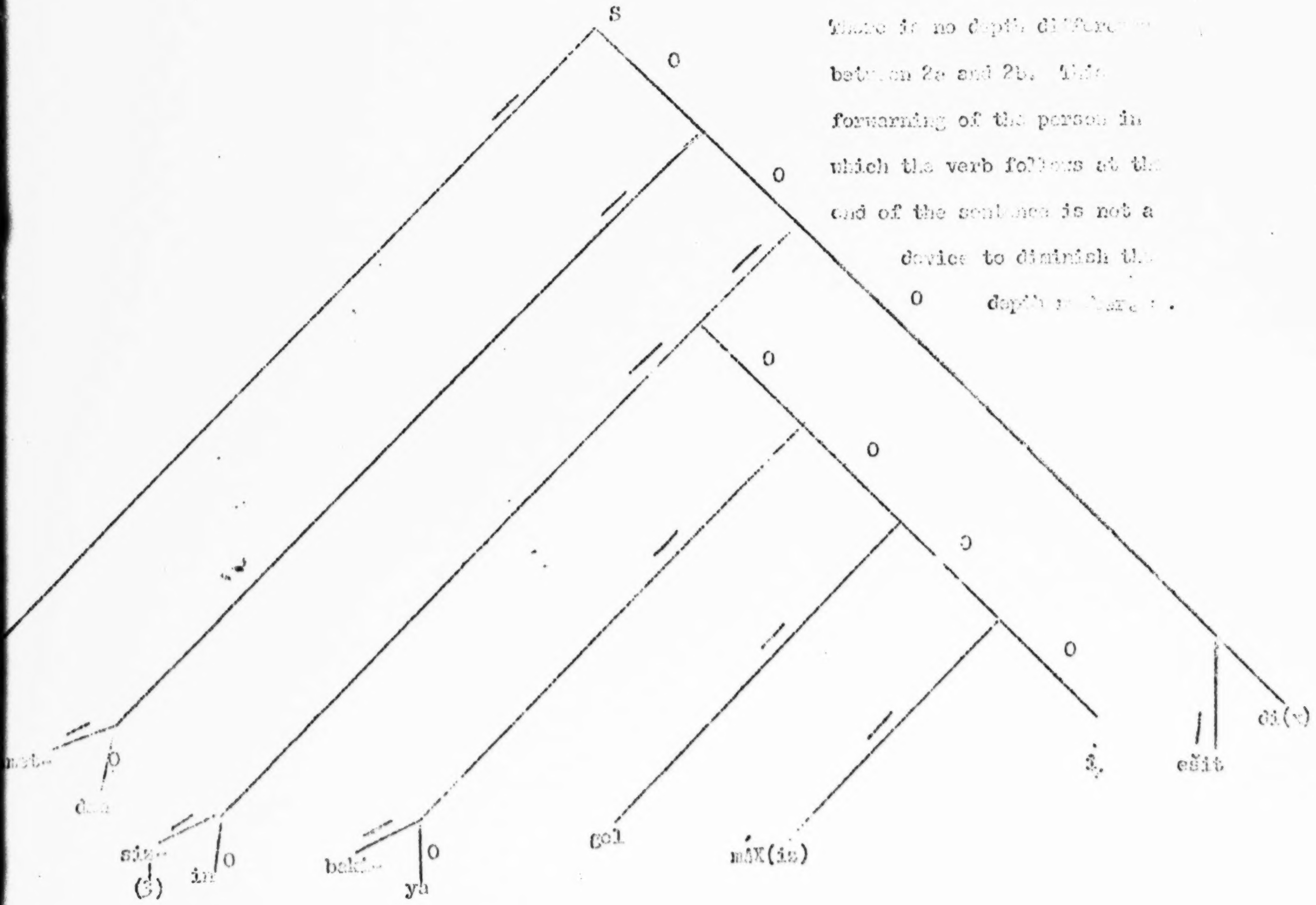
IV a.

The i of xejri could be considered automatic. The depth number would then be reduced by one from 4 to 3. This procedure was adopted in sentences 3a and 3b.



ri could be considered automatic, The depth
then be reduced by one from 4 to 3, This
s adopted in sentences 3a and 3b,

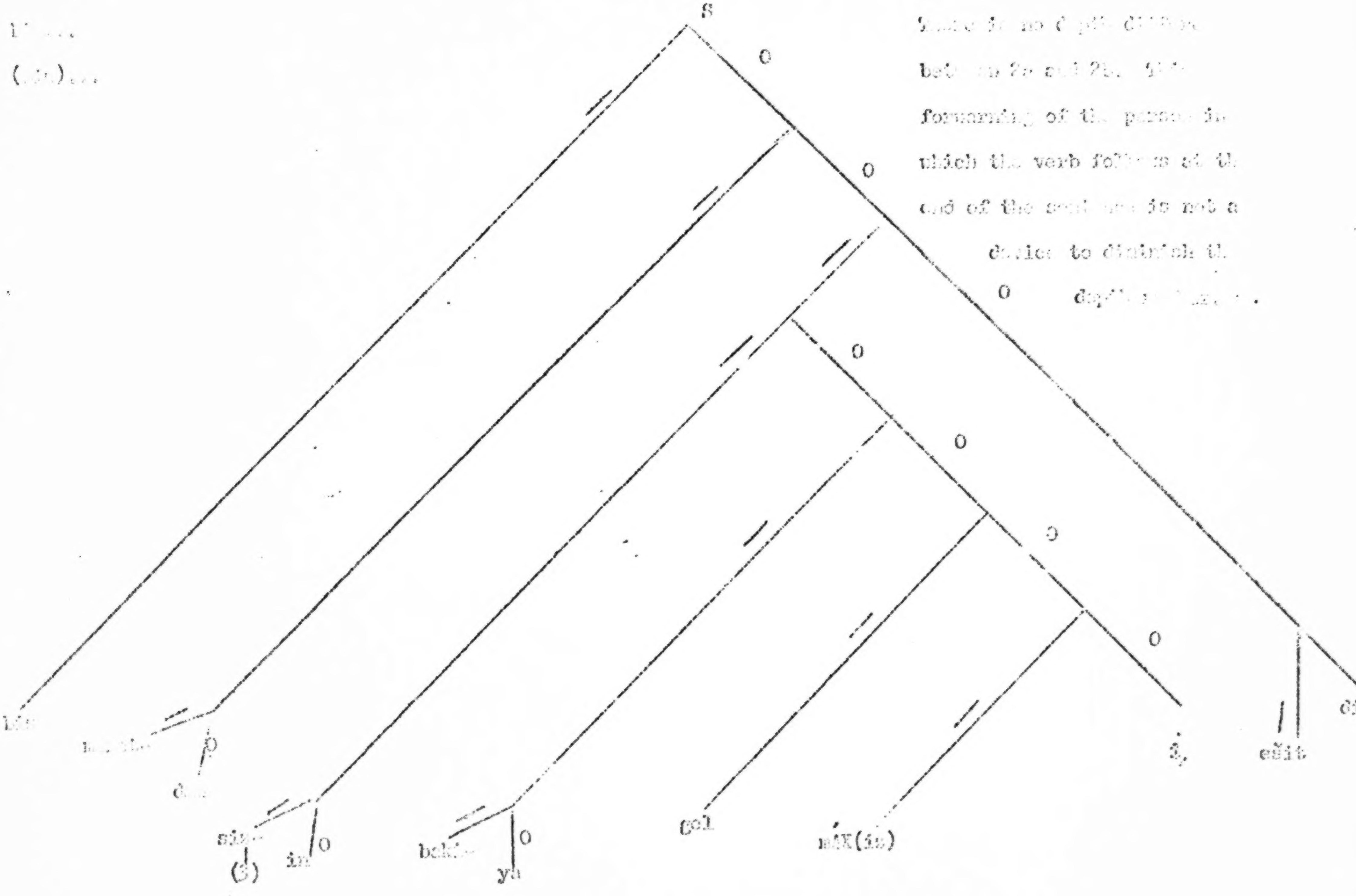




There is no depth difference between 2a and 2b. This forwarning of the person in which the verb follows at the end of the sentence is not a device to diminish the depth measure.

2a. [illegible]...

2b. ([illegible])...



There is no depth difference between 2a and 2b. The forwarding of the person in which the verb follows at the end of the sentence is not a device to diminish the depth [illegible].

V

1 2 3 4

o geldi bugün bura   He came here today.

a. Mutations acknowledged by informant as grammatical without special emphasis on any:

```
1_______2     3     4
3     1_______2     4
4     1_______2     3
1_______2     4     3
1__     4     3   __2
1__     3     4   __2
```

b. Mutations acknowledged by informant as grammatical when special emphasis was intended ('but he did come today'):

```
2__     3     4   __1
2_______1     3     4
3     4     2_______1
4     3     2_______1
2__     4     3   __1
3     2_______1     4
4     2_______1     3
```

VI

Contrastive generation of sentence 3a (with complex verb idiom) vs. sentence 3b (without complex verb idiom):

[illegible] xəbər verdi

1. o mənə xəbər verdi   he informed me

$S \longrightarrow NP + VP$

$VP \longrightarrow NP \frown jA + V$

$NP \longrightarrow \begin{cases} \text{mən} \\ \text{o} \end{cases}$

$V \longrightarrow V_{id} \frown T$

$V_{id} \longrightarrow$ xəbər ver

$\underline{1 \qquad 2}$ 3 4

3 $\underline{1 \qquad 2}$ 4

4 $\underline{1 \qquad 2}$ 3

$\underline{1 \qquad 2}$ 4 3

$\underline{1\ \ }$ 4 3 $\underline{\ \ 2}$

$\underline{1\ \ }$ 3 4 $\underline{\ \ 2}$

b. Mutations acknowledged by informant as grammatical when special emphasis was intended ('but he did come today'):

$\underline{2\ \ }$ 3 4 $\underline{\ \ 1}$

$\underline{2 \qquad 1}$ 3 4

3 4 $\underline{2 \qquad 1}$

4 3 $\underline{2 \qquad 1}$

$\underline{2\ \ }$ 4 3 $\underline{\ \ 1}$

3 $\underline{2 \qquad 1}$ 4

4 $\underline{2 \qquad 1}$ 3

VI

Contrastive generation of sentence 3a (with complex verb idiom) vs. sentence 3b (without complex verb idiom):

1. o mənə xəbər verdi he informed me

$S \longrightarrow NP + VP$

$VP \longrightarrow NP \mathbin{\hat{}} jA + V$

$NP \longrightarrow \begin{cases} \text{mən} \\ \text{o} \end{cases}$

$V \longrightarrow V_{id} \mathbin{\hat{}} T$

$V_{id} \longrightarrow$ xəbər ver

$T \longrightarrow$ di

T_{ob} mən ^ jA $\longrightarrow$ mənə

2. o mænæ ölümünün baaræsindæ xæbæri verdi He informed me about his death

$$S \longrightarrow NP + VP + NP \wedge dA$$

$$VP \longrightarrow NP \wedge jA + NP \wedge nU + V_2$$

$$T_{op} \quad NP \wedge ni + V_2 + NP \wedge dA \Longrightarrow NP \wedge dA + NP \wedge ni + V_2$$

$$NP \longrightarrow \begin{cases} o \\ mæn \\ \langle N_1 \wedge nUn \wedge sU \rangle + N_2 \end{cases}$$

$$T_{ob} \quad N \wedge nUn \wedge sU + N \Longrightarrow N \wedge nUn + N \wedge sU$$

$$V_2 \longrightarrow Vs_2 \wedge T$$

$Vs_2 \longrightarrow$ ver, göstær, de, etc.

$N_{1,2} \longrightarrow$ xæbær, ölüm, baaræ

$T \longrightarrow$ di

T_{ob}

(a) mæn ^ jA ⟹ mænæ

(b) xæbær ^ nU ⟹ xæbæri

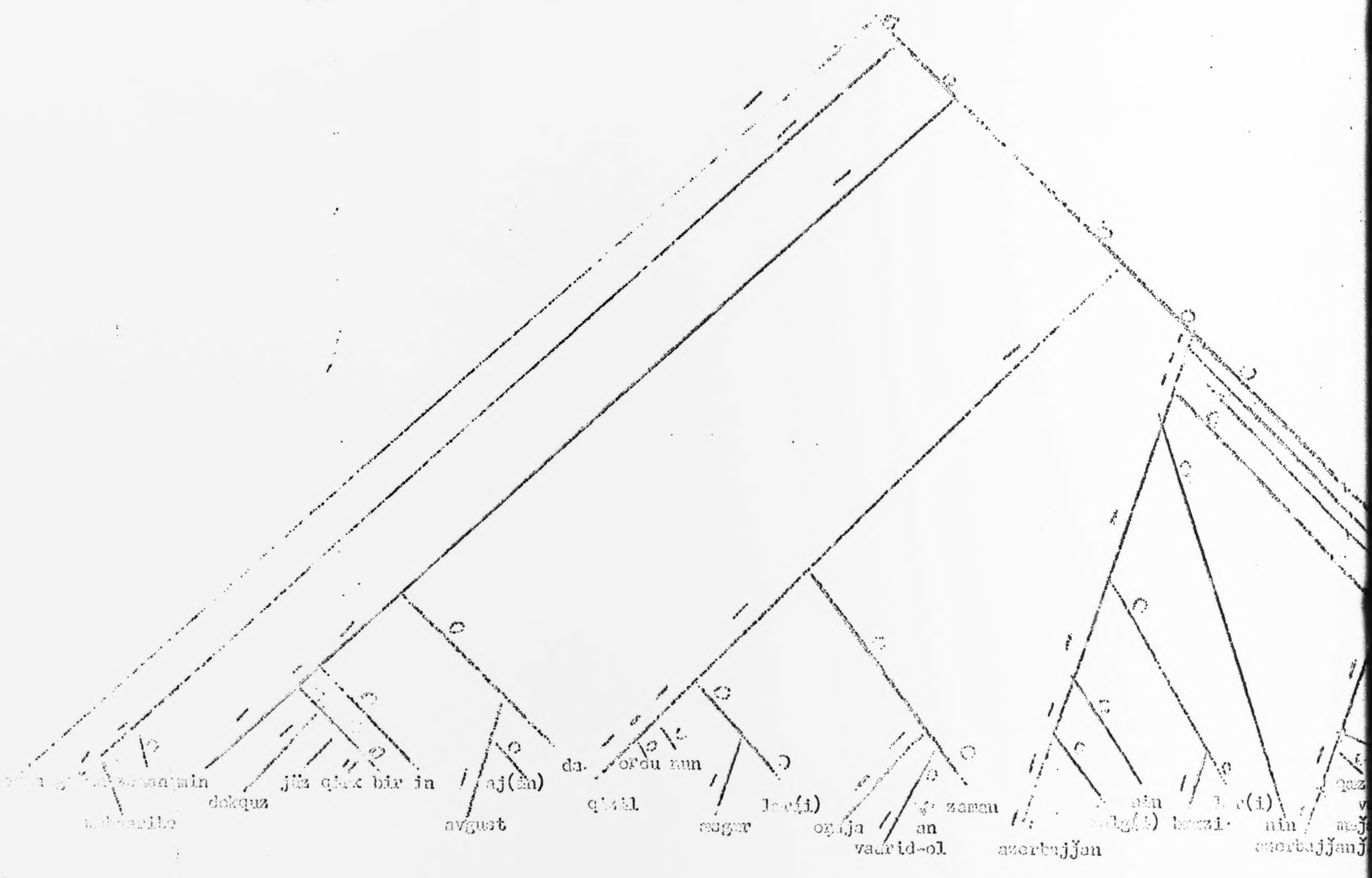
(c) baaræ ^ sU ⟹ baaræsi

(d) baaræsi ^ dA ⟹ baaræsindæ

ERRATA

Part and line	instead of	read
one:1 (also two, transformation 2)	joxdu	yox-dɨ
4	ešitdix	ešitdUK
5	your-going	your-coming
6	that you are going	about your coming
7	laazimci	laazim-ci
9	elæci	elæ-ci
13 (also two:3)	azærbaiǰanǰa	azærbayǰan-ǰa
two:5	laazimdɨ	laazim-dɨ
transformation 3	getti	getdi
	vardɨ	var-dɨ (twice)
	getmæjin	getmAYIn
six	yox du	yox dɨ
seven	dix	dUK
title of conference	Modern	Foreign

in conformity with the transcription employed in all later parts of this handout all letters |j| should read |y| in part I.



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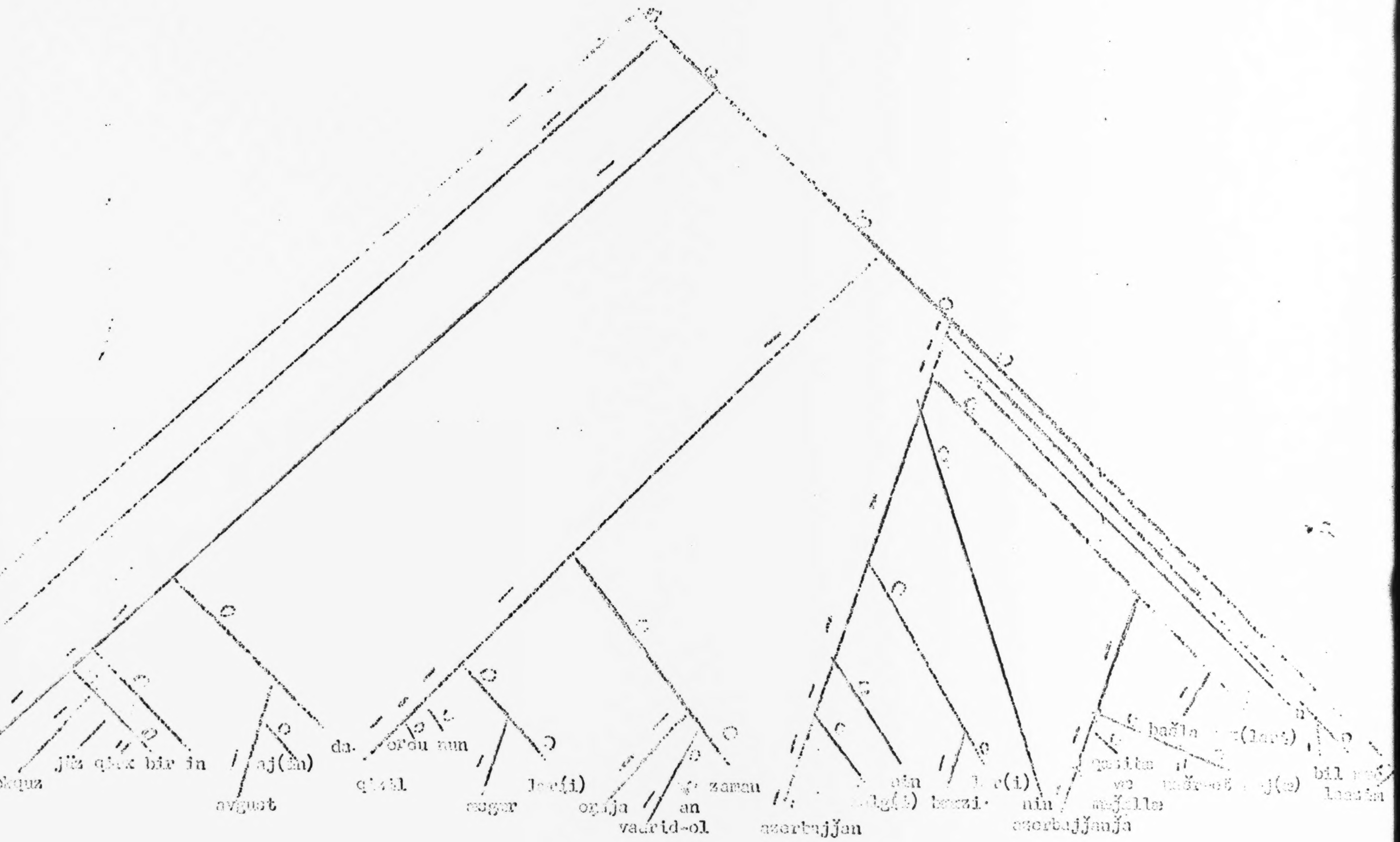

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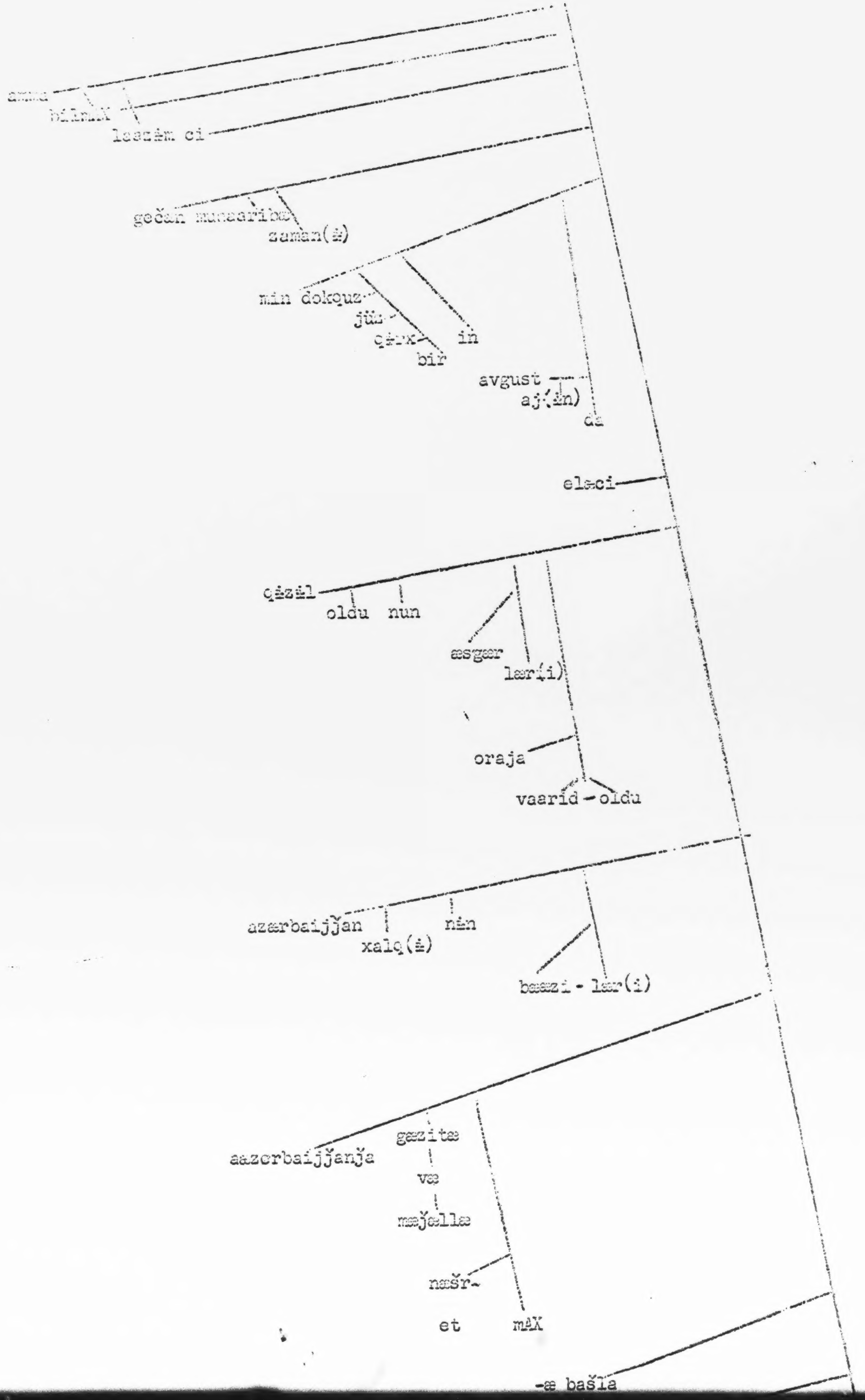
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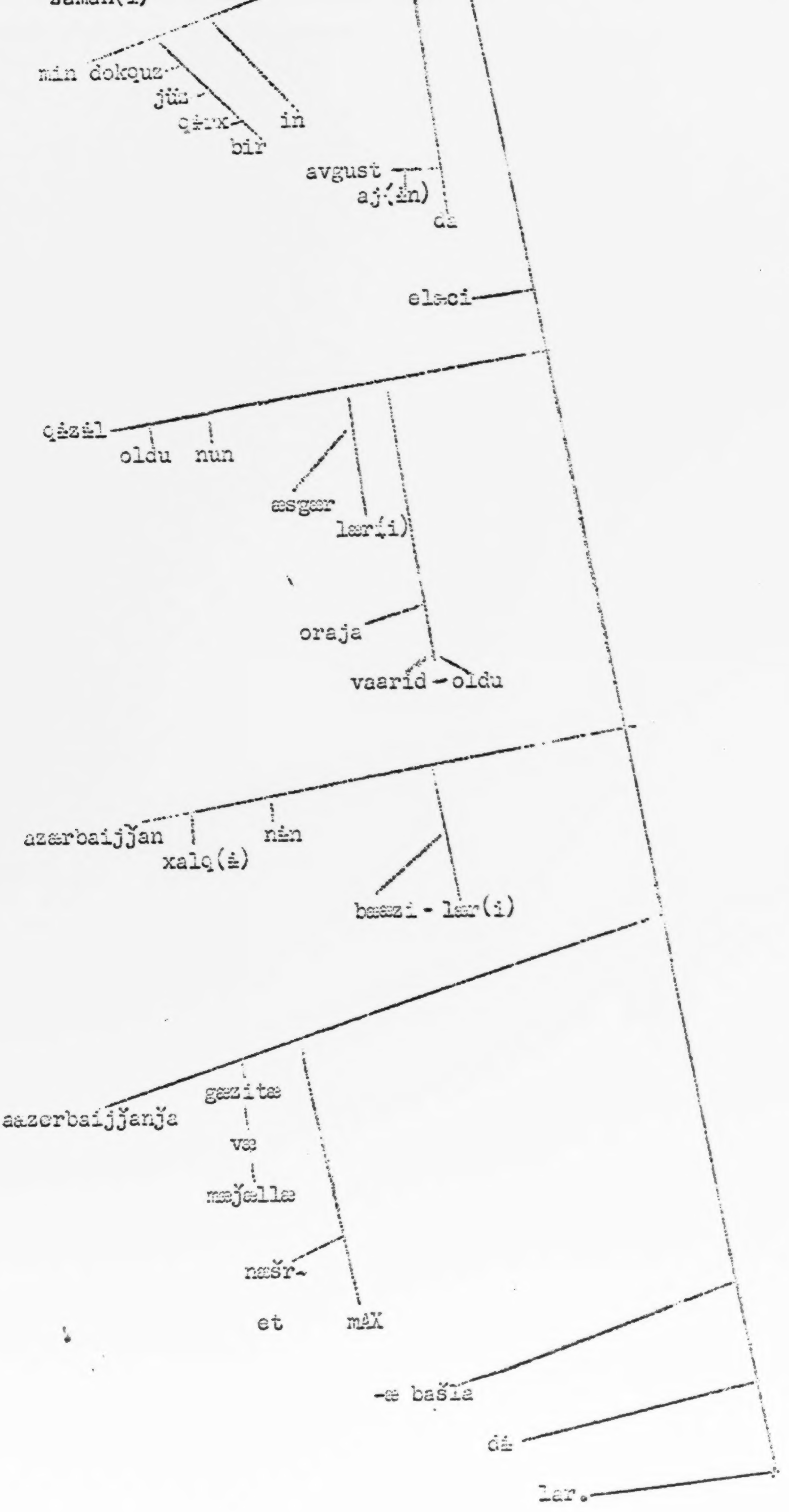
min dokquz
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vaarid - oldu
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bææzi - lær(i)
aazerbaijǰanǰa
gæzitæ
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-æ bašla
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lar.